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10/576,957	04/25/2006	Yoshiaki Taguchi	1009760-000029	2345
21839	7590	06/10/2009	EXAMINER	
BUCHANAN, INGERSOLL & ROONEY PC			USELDING, JOHN E	
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NOTIFICATION DATE		DELIVERY MODE		
06/10/2009		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/576,957	<b>Applicant(s)</b> TAGUCHI, YOSHIAKI
	<b>Examiner</b> JOHN USELDING	<b>Art Unit</b> 1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 30 March 2009.
- 2a) This action is FINAL.      2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-20 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_
- 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_\_
- 5) Notice of Informal Patent Application  
 6) Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanaka et al. (WO 01/05890) in view of Kobayashi (2002/0151624) and Okada et al. (5,091,135). US 6,956,072 is being used as an English equivalent for WO 01/05890 since it is a national stage entry of the international application.

Regarding claims 1-4, 7-9, 12-14, and 16-18: Kanaka et al. teach a composition comprising 99 to 50 parts by weight of a thermoplastic resin which does not form an anisotropic melt phase (column 1, lines 21-24; column 2, lines 63-67) and 1 to 50 parts by weight of a liquid crystal polymer which can form an anisotropic melt phase (column 1, lines 13-20; column 2, lines 63-68). Kanaka et al. teach that the thermoplastic resin can be a polycarbonate (column 4, lines 5-67). Kanaka et al. teach an embodiment containing 80 parts by weight of polycarbonate and 20 parts by weight of a liquid crystal polymer, which anticipates the claimed ranges (Example 1). If the ratio of Kanaka et al. was adjusted to 100 parts by weight of polycarbonate the amount of liquid crystal polymer taught would be within the applicant's range. Kanaka et al. teach that the composition can comprise fillers that are glass fibers (column 10, lines

37-42). Kanaka et al. teach embodiments where 30 parts by weight of glass fiber are used (Examples 8 and 9). Kanaka et al. teach that their composition can comprise flame retardants (column 11, line 4-5), fluororesin, and silicone resin (column 9, lines 54-56).

Kanaka et al. fails to teach the claimed phosphor-based flame retardant.

However, Kobayashi teaches a moldable polycarbonate resin composition with excellent flame retardancy. To provide the flame retardancy, Kobayashi teaches the use of 3-20% (paragraph 0014) of a phosphorus flame retardant (0053) and 0.1 to 2 parts by weight of polytetrafluoroethylene to improve the flame retardancy (paragraph 0071). Kobayashi teaches the exact same formula as applicant's formula 1 of claim 2 (paragraph 0053). Kanaka et al. and Kobayashi are analogous art because they are both concerned with the same field of endeavor, namely moldable polycarbonate resin compositions used for electronic applications. At the time of the invention a person having ordinary skill in the art would have found it obvious to have combined the flame retardant package of Kobayashi with the composition of Kanaka et al. and would have been motivated to do so because it would provide a molded product for electrical applications with excellent flame retardancy.

Kanaka et al. fails to teach a silicone rubber.

However, Okada et al. teach a moldable composition for encapsulating electronic components comprising a liquid crystal polymer which can form an anisotropic melt phase (column 1, lines 53-55), polycarbonates which do not form an anisotropic melt phase (column 5, line 19), 0.1-30% silicone rubber having a particle diameter of 1-20 $\mu$ m

(column 7, lines 12-17), and glass fibers (column 8, lines 15-16). Okada et al. teach that their silicone rubber is formed by crosslinking organopolysiloxane (column 5, lines 39-65). Okada et al. teach that the silicone rubbers are incorporated into the liquid crystal composition in order to further improve the performance thereof while maintaining the characteristics thereof (column 5, lines 35-38). A specific benefit is reduced stress (column 1, lines 63-65). Kanaka et al. and Okada et al. are analogous art because they are both concerned with the same field of endeavor, namely liquid crystal polymer and polycarbonate compositions with glass fibers that are moldable to form parts for electronic applications. At the time of the invention a person having ordinary skill in the art would have found it obvious to have combined the silicone rubber of Okada et al. with the composition of Kanaka et al. and would have been motivated to do so to further improve the performance thereof, such as reduced stress, while maintaining the characteristics thereof.

While the prior art does not teach all of the exact parts by weight given, it is obvious to modify the concentrations of the parts. Since the silicone rubber (C-2) is present .01-30% and the phosphor based flame retardant (C-1) is present 3-20%, part of ranges of (C-1) and (C-2) will provide a ratio of (C-1)/(C-2) from 1-2. For example, if (C-1) was 20% and (C-2) was 10% then the ratio (C-1)/(C-2) = 1. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have varied the concentration of the flame retardant materials in order to produce a material having a desired level of flame retardance as this would be a result effective variable.

Regarding claims 5, 6, and 15: Kanaka et al. teach using 0.001 to 2.0 parts by weight of phosphorus oxoacid monoester or diester dispersing agents (column 7, line 25 to column 9, line 37).

Regarding claims 10, 11, 19, and 20: Kanaka et al. teach injection molding an article that has a thickness of 0.8mm (Example 1). Kanaka et al. teach that an intended use for their composition is for thin-film housing (column 1, lines 21-30).

#### ***Response to Arguments***

Applicant's arguments filed 3/30/2009 have been fully considered but they are not persuasive.

The applicant has argued unexpected results of mechanical strength, a satisfactory absence of mold deposit, advantageous heat resistance, and flame resistance.

This is not persuasive because the scope of the claims is not commensurate with the scope of the data provided. The applicant has admitted in page 1 of the remarks filed 3/30/2009 that "the specific named ingredients be combined in specific concentrations in order to satisfy the parameters for the Applicant's claimed contribution." However the claims are broader than the data provided in the specification. For example the data provided uses a specific polycarbonate resin and a specific liquid crystalline polyester resin. Already, the Applicant argument relies on data that is much more specific than the claimed subject matter not to mention the other specific components that must be present. Also, the concentrations are claimed in a

broader scope than can be supported. For example, the applicant has argued that the (C-1)/(C-2) ratio is critical for their advantageous properties. The applicant has claimed a range from 1-2 but only provides data for 1.4 to 2 and since 0.8 fails their flammability test we cannot assume that 1.0 would pass. This is also not persuasive because while these properties are advantageous they are not unexpected. One would expect that combining the composition of Kanaka., which has high mechanical strength (column 5, line 23) and high heat resistance, mold processability, and high rigidity (column 1, lines 13-20), with the flame retardant of Kobayashi, which provides high heat resistance and flame retardance (0002) and the silicone rubber of Okada which provides reduced stress (column 1, lines 63-64), would provide a molded article with excellent mechanical strength, heat resistance, satisfactory absence of mold deposit, and flame retardance. Also, a showing of unexpected results requires objective evidence of the unexpected nature of the result, not mere allegations of superior properties. See MPEP 716.02.

The applicant has made the argument that the claimed flame retardant is never identified or otherwise taught by Kanaka. This was admitted in the previous office action and this is why Kobayashi was used in the rejection to show that the inclusion of the flame retardant was obvious. Just because Kobayashi uses a different polycarbonate does not mean that one of ordinary skill would not have used their flame retardant in the composition of Kanaka. It is well document that one would desire to switch from a halogen flame retardant to a non-halogen flame retardant for environmental reasons. There is no reason why one of ordinary skill in the art would not expect the flame retardant of Kobayashi to function in the same capacity in the

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composition of Kanaka. One of ordinary skill does not limit the use of additives only to the particular polymer that they were first used in.

The applicant has argued that because the optional incorporation of another thermoplastic resin which does not form an anisotropic melt phase is never used in any of the working examples of Okada that therefore one of ordinary skill would not use the silicone rubber of Okada in Kanaka. The prior art is not limited to only the example but to their entire teachings. The applicant has also argued that Okada fails to teach the claimed flame retardant. This was never argued or even suggested by the Office. Okada is being used for the silicone rubber component and not for the flame retardant component.

The applicant appears to argue throughout the remarks that the prior art had not envisioned the applicant's advantages. Even if this were true, which is not admitted, the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOHN USELDING whose telephone number is (571)270-5463. The examiner can normally be reached on Monday-Thursday 6:00am-4:30pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on 571-272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JOHN USELDING  
Examiner  
Art Unit 1796

/Marc S. Zimmer/  
Primary Examiner, Art Unit 1796